



Fire Protection Plan/Fuel Management Plan

For TPM 20835 Revised

Tran TPM/Gopher Canyon/APN 172-014-38/ER 04-02-021

Submitted By

Lamont Landis

Lamont Landis Consulting

43242 Modena Dr.

Temecula Ca. 92592

760-702-4370 Lamontlandis@adelphia.net

Prepared For the County of San Diego

June 4, 2008

Principal Author

Lamont Landis

Table of Contents

1.0 Executive Summary	1
2.0 Introduction	
2.1 Topography	
2.2 Fire Department Location and Response Time	2
2.3 Wildfire History	
2.4 Potential for Fire in the Area	
3.0 Effect of the Project	
3.1 Existing Onsite and Surrounding Area	
3.2 Water Supply	
3.3 Landscape Concept	3
4.0 Behave Plus Fire Modeling	
4.1 BehavePlus Fire Model Table 1	4
5.0 Fuel Modification Zones	
5.1 Landscape Requirements	
6.0 Mitigation for Structures	5
7.0 Fuel Management Zones	6
7.1 Fuel Management Zone 1	
7.2 Fuel Management Zone 2	7
8.0 Deer Springs Protection District/ Fire Prevention Requirements	
8.1 Purpose Policy and Authority	
9.0 Fire Safe Community Planning	8
9.1 Landscape Requirements	
10.0 Fire Access Rd.	
11.0 Fuel Modification Zone Maintenance Requirements	9
Appendices	

Lamont Landis Fire Consultant

760-702-4370

1.0 Executive Summary

The proposed project is a tentative map (TPM 20835) that would divide a 16.85 acre lot into 5 parcels. The proposed parcel sizes are 2.04, 2.56, 2.46, 2.95 and 6.84 gross acres. The project is located at the intersection of Valley of the Kings and Gopher Canyon Road just north of the City of Escondido in the Deer Springs area. The project encompasses moderately steep hillsides with grass and fruit trees. The surrounding property has some brush to the South, Avocado groves to the East and West and urban developed to the West and North. Removal of the vegetation for this project will be a marked improvement. It will substantially reduce the fire hazard in the area. The nearest fire protection for this project is Deer Springs Fire Station No. 1 and is less than five minutes away. This project does meet the current requirement of a second access. All structures will be less than 1,320 feet from Gopher Canyon Road. This Fire Protection Plan is in response to a request from the County of San Diego.

2.0 Introduction

This Fire Protection Plan/Fuel Modification Plan (FMP) has been prepared for TPM 20835, a 5 lot split with residential development. This plan has been developed to protect the residential structures from potential wildfire hazards to the maximum extent practical. This plan does not guarantee that the structure will not burn, but greatly reduces that possibility. These are not shelter in place residences. A variety of factors have been incorporated into the Fire Protection Plan including wildfire history, prevailing wind patterns, existing vegetation, fuel loading, terrain, adjacent vegetation and land use.

This project is within the Deer Springs Fire Protection District.

The project consists of approximately 16.84 acres.

The Assessors Parcel # is 172-014-38

The Tentative Parcel Map # is TPM 20835

The number of lots will be 5

The types of occupancies are single-family residences.

2.1 Topography

The project encompasses flat land, gentle slopes with gradual sloped hillside to the North and gentle slopes to the South and East portions of the project. On site slopes are approximately 1 to 21%. Off site slope to Northeast, South and West are approximately 1 to 21%. The elevation ranges from 490 feet to 640 feet above sea level.

2.2 Fire Department Location and Response Travel Time

Initial Fire Department response is from Deer Springs Fire Station # 1 located at 8709 Circle R Drive. This station is staffed by 3 firefighters and two ambulance personnel. Apparatus include one type one engine and ALS ambulance. The station is located 1.94 miles from the above property and is 3 minutes away by using the estimated timetable in NFPA 1142.

2.3 Wildfire History

On February 10, 2002 the Gavilan Wildfire burned over 5,200 acres of natural open space and destroyed 43 structures in the western portion of Fallbrook and the Weapons Annex. Embers from the 50 miles per hour plus Santa Ana winds caused structures to be destroyed. The Gavilan Fire was driven by Santa Ana winds fueled by 50 year old brush and an extended drought. Records also show that the Moosa Fire burned $\frac{1}{4}$ of the property in 1969.

2.4 Potential for Fire in the Area

The site has the potential to experience a vegetation fire in its current vegetated state. This is based on the type of vegetation and its continuous nature, Santa Ana winds, high temperatures, low humidity and drought conditions. The undeveloped property does pose a hazard from a wildland fire.

3.0 Effect of the Project

The development of this area will reduce the spread of wildfire by reducing the fuel loading, the addition of water supply (additional fire hydrants for fire fighting), improving of roads in the project and the clearing of home sites will provide additional fuel breaks in the area. The development of this property will significantly reduce risk to life and property by removing the vegetation and the threat of wildfire from the site.

3.1 Existing Onsite and Surrounding Area Vegetation

On site vegetation consist of non-native grasses. (See biological report for this project) The surrounding property has orchards and urban development to the East. South of the project is Diegan Coastal Sage Scrub, Southwest is urban developed and is maintained on an annual bases. North of the project is urban developed and maintained on an annual bases with a small strip of Southern Willow Scrub.

3.2 Water Supply

The water supply for this proposed project will come from an existing water main and will be extended into the project (Rainbow MWD). Domestic and fire flow systems will be designed to San Diego County and Deer Springs Fire Prevention requirements. Additional fire hydrants will be added to the new street in locations approved by the Deer Springs Fire Protection District and will be located before the curb radius of the turnaround with a fire flow of 2500 GPM @ 20 PSI. All fire hydrants shall be located along the fire access roadways as determined by the Fire Marshal to meet the operational needs, at intersections, at cul-de sacs and at intervals to the County Fire Codes.

3.3 Landscape Concept

A low fuel, drought tolerant landscape concept has been designed for the proposed slopes. Low fuel, drought tolerant native plant species will be incorporated to the maximum extent possible. A plant species list is included in Appendix A.

The final landscape concept and plant palate shall be reviewed and approved by the Deer Springs Fire Protection District. Individual homeowners will be responsible for installing and maintaining their individual front, side and rear yard landscaping. All homeowner installed landscaping must be in accordance with the approved landscape species list.

4.0 BehavePlus Fire Modeling

The BehavePlus Fire Modeling System (Version 3.0.2) developed by the U.S. Forest Service/ Rocky Mountain Research Station is the generally accepted software for modeling large-scale wildfire behavior and characteristics. The BehavePlus system was designed to evaluate a variety of wildfire variables for large wildland fires including surface fire spread, safety zones, fire containment, spotting distance crown scorch and probability of ignition. Two aspects of this program (surface fire spread and safety zone) have been utilized to assist in determining acceptable fuel modification requirements. The BehavePlus program coupled with onsite and surrounding area vegetation, access, slope and weather conditions are the basis for the following.

The BehavePlus fire system has been run for the following worst-case scenarios:

60 MPH wind 90-100-degree ambient air temperature, 2 % dead fuel moisture, 60 % live fuel moisture and 50 % average slope aspect. The model was run for two fuel model scenarios, as the project contains varying types of fuels.

It should be noted that the BehavePlus Model does not and cannot include all variables associated with a specific site and regime, and adjacent mixed land uses can influence the results.

The BehavePlus Model run results are summarized in Table 1.

Table 1

4.1 BehavePlus Fire Model

Fuel Model 1 [short grass (s)]

Wind Speed & Direction	Mid-flame	Rate of Spread	Fire Line Intensity	Flame Length
60 mph N, NE, E	30.0 mph	665.6 Ch/h	1415 Btu/ft/s	12.7

Up-slope spotting distance= 1.1 miles

Fuel Model SCAL 18 [Sage/Buckwheat]

Wind Speed & Direction	Mid-flame	Rate of Spread	Fire Line Intensity	Flame Length
60 mph N, NE, E	30.0 mph	295.2 Ch/h	23351 Btu/ft/s	46.0 ft

Up-slope spotting distance= 2.8 miles

The Behave Plus, coupled with the expected offshore Santa Ana wind direction, anticipated down slope fire line aspect, and relatively low fuel vegetation within the urban wildland interface areas, and existing fuel modified areas serves as a basis for formulation of the recommended Fuel Modification Zone locations.

5.0 Fuel Modification Zones

A two tiered Fuel Modification Zone system is proposed to create an adequate fire safety buffer along the proposed development areas and access roads, which would be defensible space in case of a wildfire. The Fuel Modification Zone recommendations are based upon a combination of BehavePlus modeling data, onsite vegetation, access, surrounding area fuel conditions, slope and worst-case weather conditions. The Fuel Modification Zones have been designed to meet the requirements of the Deer Springs Fire Protection District and San Diego County DPLU.

5.1 Landscape Requirements

All landscaping within the Fuel Modification Zones must be approved by the Deer Springs Fire Protection District and shall include low fuel, drought tolerant plant species. (See Appendix A).

A landscape plan shall be submitted for approval and shall comply with the Fuel Modification Plan.

6.0 Mitigation for Structures:

All new structures shall be equipped with the following interface features:

1. Roofs will be a Class A noncombustible material and shall meet the DPLU standards.
2. Eaves will be of noncombustible material and boxed. (DPLU # 198)
3. Exterior walls will be a noncombustible or ignition_resistive material. (DPLU # 664)
4. All structures will be equipped with automatic fire sprinklers (NFPA 13D). All sprinkler systems shall be approved by the Deer Springs Fire Protection District prior to installation
5. All future outbuildings must be approved by, the Deer Springs Fire Protection District prior to installation.
6. All structures will comply with the wildland area structural requirements of the County Building Code Chapter 7A in affect at the time of building permit application.

7.0 Fuel Modification Zones:

Parcels: 1,2,3,4 and remainder

The above mentioned parcels shall have the following zones defined as: 1 and 2 with a combined distance of 100 feet. Zone 1 shall be the distance from the structure out to 50 feet (front, back and side yards). Zone 2 shall be the distance from 50 to 100 from the structure. All vegetation in these zones shall be required to be maintained as per Deer Springs Protection District Weed Abatement Ordinance, and planted with vegetation from the San Diego County Acceptable Plant List (Appendix A) for defensible space in fire prone areas.

7.1 Fuel Modification Zone 1:

“Zone 1 is 50 feet in width and extends from the edge of the perimeter buildings (see attached Fuel Modification Zone Map) and is commonly called the defensible space zone. It is an irrigated zone and shall be free of all combustible construction and materials. This zone may be paved, contain landscaping or consist of a combination of both. Where landscaping occurs in this zone it must contain landscaped and irrigated planting of fire resistant, maintained native or ornamental plantings usually less than 18 inches in height. This zone may also contain occasional fire resistant trees and single well ornamental shrubs. Shrubs and trees will be

selected from the San Diego County Acceptable Plant List (Appendix A) for defensible space in fire prone areas.

Trees will be placed and maintained so there crown cover at maturity will be more than ten 10 feet from any structure. All tree crowns will be separated by twenty (20) feet and each tree will be limbed to maintain a separation of 6 feet between the ground fuels and the lower limbs.

7.2 Fuel Modification Zone 2

Zone 2 is 50 feet in width and extends from zone 1. All native and exotic plants (except protected species and agriculture) shall be removed and planted with plants from the acceptable plant list (Appendix A) and permanently irrigated. All plant spacing shall be the same as Zone 1. All down and dead or dying vegetation shall be removed. This includes all natural and manufactured slopes. Irrigation shall not be required for natural slopes when there is a danger of slope failure. In such cases alternative maintenance measures shall be developed and approved by Deer Springs FPD. An alternative may include removal of ground vegetation, (excluding protected species and agriculture) and planting with drought tolerant native grasses maintained to 8 inches in height. No trees allowed in Zone 2 except existing native trees and agriculture.

Required maintenance: Maintenance will be on going throughout the year as needed. All plants and ground cover are to be maintained to the height of 18 inches or less.

8.0 Deer Springs Fire Protection District/Fire Prevention Requirements

The proposed project is subject to policies, guidelines and regulations contained in the Deer Springs Fire Protection District Ordinance 2008-01 and 2002-03 and the San Diego County Fire Code (Sec.4707), Chapter 47 of the California Fire Code and the Vegetation Abatement in Sensitive Habitats Memorandum of Understanding. Fire safety and hillside residential design requirements are contained in the Fire Prevention/Plans and Permits section. Specific Fuel Modification Plan and vegetation management criteria are also promulgated in this section.

8.1 Purpose, Policy and Authority

The Deer Springs Fire Protection District fuel modification guidelines were created to provide fire protection services and greater public safety in areas prone to wildland brush fires, by establishing additional development standards for those areas. The fuel modification plans are required in designated high fire hazard areas as mapped on the San Diego County General Plan Hazard Map (SANGIS), in conjunction with the California Department of Forestry and the United States Forest Service.

9.0 Fire Safe Community Planning

The proposed project has been designed to be a fire safe community with defensible space. This includes creation of minimal wildland-urban interface areas, fire access roads and a comprehensive Fuel Modification Plan. Onsite and surrounding area native vegetation is considered to be high or a very high fire hazard and has long flame lengths or intensity associated with model SCAL 18 fuels. This onsite fuel will be removed and will no longer pose a threat. The onsite grassland associated with this property typically results in a slow burning and intensity (low flame length). High winds coupled with steep slopes and low humidity can increase the risk hazard of the fire. This type of vegetation is rarely associated with major conflagration resulting in property loss. The onsite wildfire risk to the proposed dwellings, based upon onsite and surrounding vegetation in conjunction with moderate North facing slopes and prevailing Santa Ana wind pattern is considered to be high to very high, and will be mitigated with the implementation of a Fuel Modification Plan.

9.1 Landscape Requirements/Restrictions

The landscaping within the Fuel Modification Zones must be approved by the Deer Springs Fire Protection District and shall include low fuel, drought tolerant type vegetation from the list adopted by the County of San Diego (see Appendix A).

10.0 Fire Access Road

The proposed fire access road is designed to allow for egress for the public and fire fighting access for the Fire Department. All of the extension of the road on site shall be 24 feet paved on 28 feet graded. The fuel modification on or adjacent to the road adds to the reduction of the spread of the fire and is part of the overall Fuel Modification Plan. All roads shall have a minimum clearance of 30 feet on each side of the road. Turnarounds on all lots shall comply with Appendix B. The proposed access roads shall meet or exceed all San Diego County DPLU and Deer Springs Fire Protection District requirements. All roads leading up to the project Gopher Canyon Road are paved and are going through developed land. The road (Gopher Canyon Road) circulates in two directions and meets the requirement for a second access. All lots are one acre plus and access on Gopher Canyon Road and is less than 1,320 feet to the farthest proposed structure. The maximum distance for lots above 1 acre less than 5 acres is 1,320 feet.

11.0 Fuel Modification Zone Maintenance Requirements

Fuel Modification Zones must be maintained in a manner that will fulfill the intent of the Fuel Modification Plan and meet the requirements of the Deer Springs Fire Protection District. Maintenance will include initial planting, weeding, irrigation installation and maintenance, plant pruning, removal of dead/down vegetation, and the replacement of plants as required.

The following will also apply to this project:

1. Each lot owner is personally responsible for all irrigation and landscaping fuel treatment zones within their property boundaries. Where the zone extends onto the adjoining property within the development, the lot owner benefiting from the fuel treatment shall be allowed to perform work on the adjacent property.
2. The Deer Springs Fire Protection District will hold each lot owner within this subdivision accountable for enforcement of all wildland fire protection issues discussed in this plan.
3. Each lot owner shall not allow trash dumping or disposal of any yard trimmings in the fuel treatment zones.
4. The Deer Springs Fire Protection District or its designated representative shall decide any disputes related to individual lot landscaping or fuel treatment, with respect to interpretation of the Fire Protection Plan. Decisions shall be final and binding on the lot owner.
5. Should modifications to the Tentative Map Plans occur, any and/or all of the Fire Protection Plan may be revised at the discretion of the Deer Springs Fire Protection District.
6. All exterior boundaries of Zones 2 shall be permanently marked on the ground for purposes of guiding annual fuel management maintenance and inspection operations. The most reliable markers are steel fence post with baked on painted finish. The upper half of the above ground portion of the fence post is then painted a bright "day glow" orange to improve visibility. These Fuel Treatment Zone markers must be spaced so that the markers on each side of an installed marker can be seen from that marker.

Appendix Table of Contents

Appendix A	Plant List
Appendix B	Fire Apparatus Turnaround
Appendix C	Photos
Appendix D	BehavePlus Fire Model
Appendix E Construction	Guidelines fire Ignition Resistant
Appendix F	Code Reference
Appendix G	Aerial Photos
Appendix H	Vegetation Map
Appendix I	Fuel Modification Map
Appendix J	Project Facility Availability Fire

SUGGESTED PLANT LIST FOR A DEFENSIBLE SPACE

<u>BOTANICAL NAME</u>	<u>COMMON NAME</u>	<u>Climate Zone</u>
TREES		
Acer		
platanoides	Norway Maple	M
rubrum	Red Maple	M
saccharinum	Silver Maple	M
saccarum	Sugar Maple	M
macrophyllum	Big Leaf Maple	C/ (R)
Alnus rhombifolia	White Alder	C/I/M (R)
Arbutus		
unedo	Strawberry Tree	All zones
Archontophoenix		
cunninghamiana	King Palm	C
Arctostaphylos spp.**	Manzanita	C/I/D
Brahea		
armata	Blue Hesper Palm	C/D
edulis	Guadalupe Palm	C/D
Ceratonia siliqua	Carob	C/I/D
Cerdidium floridum	Blue Palo Verde	D
Cercis occidentalis**	Western Redbud	C/I/M
Cornus		
nuttallii	Mountain Dogwood	I/M
stolonifera	Redtwig Dogwood	I/M
Eriobotrya		C/I/D
japonica	Loquat	C
Erythrina caffra	Kaffirboom Coral Tree	I/M
Ginkgo biloba "Fairmount"	Fairmount Maidenhair Tree	I/D/M
Gleditsia triacanthos	Honey Locust	
Juglans		I
californica	California Walnut	C/I
hindsii	California Black Walnut	I/D/M
Lagerstroemia indica	Crape Myrtle	I
Ligustrum lucidum	Glossy Privet	C/I/M
Liquidambar styraciflua	Sweet Gum	I
Liriodendron tulipifera	Tulip Tree	
Lyonothamnus floribundus		C
ssp. Asplenifolius	Femleaf Catalina Ironwood	C/I/D
Melaleuca spp.	Melaleuca	C/I
Parkinsonia aculeate	Mexican Palo Verde	
Pistacia		
chinensis	Chinese Pistache Pistachio Nut	C/I/D

vera	Pistachio Nut	I
Pittosporum		
phillyraeoides	Willow Pittosporum	C/I/D
viridiflorum	Cape Pittosporum	C/I
Platanus		
acerifolia	London Plane Tree	All zones
racemosa**	California Sycamore	C/I/M
Populus		
alba	White Poplar	D/M
fremontii**	Western Cottonwood	I
trichocarpa	Black Cottonwood	I/M
Prunus		
xblireiana	Flowering Plum	M
caroliniana	Carolina Laurel Cherry	C
ilicifolia**	Hollyleaf Cherry	C
lyonii**	Catalina Cherry	C
serrulata 'Kwanzan'	Flowering Cherry	M
yedoensis 'Akebono'	Akebono Flowering Cherry	M
Quercus		
agrifolia**	Coast Live Oak	C/I
engelmannii	Engelmann Oak	I
** suber	Cork Oak	C/I/D
Rhus		
lancea**	African Sumac	C/I/D
Salix spp.**	Willow	All zones (R)
Tristania conferta	Brisbane Box	C/I
Ulmus		
parvifolia	Chinese Elm	I/D
pumila	Siberian Elm	C/M
Umbellularia californica**	California Bay Laurel	C/I

SHRUBS

Agave	Century Plant	D
americana	Century Plant	D
deserti	Shawis Century Plant	D
shawii**		
Amorpha fruticosa**	False Indigobush	I
Arbutus		
menziesii**	Madrone	C/I
Arctostaphylos spp.**	Manzanita	C/I/D
Atriplex**		
canescens	Hoary Saltbush	I
lentiformis	Quail Saltbush	D
Baccharis**		
glutinosa	Mule Fat	C/I
pilularis	Coyote Bush	C/I/D
Carissa grandiflora	Natal Plum	C/I
Ceanothus spp.**	California Lilac	C/I/M
Cistus spp.	Rockrose	C/I/D
Cneoridium dumosum**	Bushrue	C
Comarostaphylis**		
diversifolia	Summer Holly	C
Convolvulus cneorum	Bush Morning Glory	C/I/M
Dalea		
orcuttii	Orcutt's Delea	D
spinosa**	Smoke Tree	I/D
Elaeagnus		
pungens	Silverberry	C/I/M
Encelia**		
californica	Coast Sunflower	C/I
farinose	White Brittlebush	D/I
Eriobotrya		
deflexa	Bronze Loquat	C/I
Eriophyllum		
confertiflorum**	Golden Yarrow	C/I
staechadifolium	Lizard Tail	C
Escallonia spp.	Escallonia	C/I
Feijoa sellowiana	Pineapple Guava	C/I/D
Fouquieria splendens	Ocotillo	D
Fremontodendron**		
californicum	Flannelbush	I/M
mexicanum	Southern Flannelbush	I
Galvezia		
juncea	Baja Bush-Snapdragon	C
speciosa	Island Bush-Snapdragon	C
Garrya		
elliptica	Coast Silktassel	C/I
flavescens**	Ashy Silktassel	I/M

Heteromeles arbutifolia**	Ashy Silktassel	I/M
Lantana spp.	Toyon	C/I/M
Lotus scoparius	Lantana	C/I/D
Mahonia spp.	Deerweed	C/I
	Barberry	C/I/M
Malacothamnus clementinus		
	San Clemente Island Bush Mallow	C
fasciculatus**		
	Mesa Bushmallow	C/I
Melaleuca spp.		
Mimulus spp.**	Melaleuca	C/I/D
Nolina	Monkeyflower	C/I (R)
parryi		
parryi ssp. wolfii	Parry's Nolina	I
Photinia spp.	Wolf's Bear Grass	D
Pittosporum	Photinia	All Zones
crassifolium		
rhombifolium		C/I
tobira 'Wheeler'	Queensland Pittosporum	C/I
undulatum	Wheeler's Dwarf	C/I/D
viridiflorum	Victorian Box	C/I
Plumbago auriculata	Cape Pittosporum	C/I
Prunus	Cape Plumbago	C/I/D
caroliniana		
ilicifolia**	Carolina Laurel Cherry	C
lyonii**	Hollyleaf Cherry	C
Punica granatum	Catalina Cherry	C
Pyracantha spp.	Pomegranate	C/I/D
Quercus	Firethorn	All Zones
dumosa**		
Rhamus	Scrub Oak	C/I
alaternus		
californica**	Italian Blackthorn	C/I
Rhaphiolepis spp.	Coffeeberry	C/I/M
Rhus	Rhaphiolepis	C/I/D
integrifolia**		
laurina	Lemonade Berry	C/I
lentii	Laurel Sumac	C/I
ovata**	Pink-Flowering Sumac	C/D
trilobata**	Sugarbush	I/M
Ribes	squawbush	I
viburnifolium		
speciosum**	Evergreen Currant	C/I
Romneya coulteri	Fuschia-Flowering Gooseberry	C/I/D
Rosa		
californica**	Matilija Poppy	I
minutifolia		

Salvia spp.**	California Wild Rose	C/I
Sambucus spp.**	Baja California Wild Rose	C/I
Symphoricarpos mollis**	Sage	All Zones
Syringa vulgaris	Elderberry	C/I/M
Tecomaria capensis	Creeping Snowberry	C/I
Teucrium fruticans	Lilac	M
Toxicodendron**	Cape Honeysuckle	C/I/D
diversilobum	Bush Germander	C/I
Verbena		
lilacina	Poison Oak	I/M
Xylosma congestum		
Yucca**	Lilac Verbena	C
schidigera	Shiny Xylosma	C/I
whipplei		
	Mojave Yucca	D
	Foothill Yucca	I

GROUNDCOVERS

<i>Achillea</i> **	Yarrow	All Zones
<i>Aptenia cordifolia</i>	Apteria	C
<i>Arctostaphylos</i> spp.**	Manzanita	C/I/D
<i>Baccharis</i> **		
<i>pilularis</i>	Coyote Bush	C/I/D
<i>Ceanothus</i> spp.**	California Lilac	C/I/M
<i>Cerastium tomentosum</i>	Snow-in-Summer	All Zones
<i>Coprosma kirkii</i>	Creeping Coprosma	C/I/D
<i>Cotoneaster</i> spp.	Redberry	All Zones
<i>Drosanthemum hispidum</i>	Rosea Ice Plant	C/I
<i>Dudleya</i>		
<i>brittonii</i>	Brittonis Chalk Dudleya	C
<i>pulverulenta</i> **	Chalk Dudleya	C/I
<i>virens</i>	Island Live Fore-ever	C
<i>Eschscholzia californica</i> **	California Poppy	All Zones
<i>Euonymus fortunei</i>		
'Carrierei'	Glossy Winter Creeper	M
'Coloratus'	Purple-Leaf Winter Creeper	M
<i>Ferocactus viridescens</i> **	Coast Barrel Cactus	C
<i>Gaillardia grandiflora</i>	Blanket Flower	All Zones
<i>Gazania</i> spp.	Gazania	C/I
<i>Helianthemum</i> spp.**	Sunrose	All Zones
<i>Lantana</i> spp.	Lantana	C/I/D
<i>Lasthenia</i>		
<i>californica</i> **	Common Goldfields	I
<i>glabrata</i>	Coastal Goldfields	C
<i>Lupinus</i> spp.**	Lupine	C/I/M
<i>Myoporum</i> spp.	Myoporum	C/I
<i>Pyracantha</i> spp.	Firethorn	All zones
<i>Rosmarinus officinalis</i>	Rosemary	C/I/D
<i>Santolina</i>		
<i>chamaecyparissus</i>	Lavender Cotton	All Zones
<i>virens</i>	Santolina	All Zones
<i>Trifolium fraseriferum</i>	O'Connor's Legume	C/I
<i>Verbena</i>		
<i>rigida</i>	Verbena	All Zones
<i>Viguiera laciniata</i> **	San Diego Sunflower	C/I
<i>Vinca</i>		
<i>minor</i>	Dwarf Periwinkle	M

GROUNDCOVERS

Achillea**	Yarrow	All Zones
Aptenia cordifolia	Apteria	C
Arctostaphylos spp.**	Manzanita	C//D
Baccharis**		
pilularis	Coyote Bush	C//D
Ceanothus spp.**	California Lilac	C//M
Cerastium tomentosum	Snow-in-Summer	All Zones
Coprosma kirkii	Creeping Coprosma	C//D
Cotoneaster spp.	Redberry	All Zones
Drosanthemum hispidum	Rosea Ice Plant	C/I
Dudleya		
brittonii	Brittonis Chalk Dudleya	C
pulverulenta**	Chalk Dudleya	C/I
virens	Island Live Fore-ever	C
Eschscholzia californica**	California Poppy	All Zones
Euonymus fortunei		
'Carrieri'	Glossy Winter Creeper	M
'Coloratus'	Purple-Leaf Winter Creeper	M
Ferocactus viridescens**	Coast Barrel Cactus	C
Gaillardia grandiflora	Blanket Flower	All Zones
Gazania spp.	Gazania	C/I
Helianthemum spp.**	Sunrose	All Zones
Lantana spp.	Lantana	C//D
Lasthenia		
californica**	Common Goldfields	I
glabrata	Coastal Goldfields	C
Lupinus spp.**	Lupine	C//M
Myoporum spp.	Myoporum	C/I
Pyracantha spp.	Firethorn	All zones
Rosmarinus officinalis	Rosemary	C//D
Santolina		
chamaecyparissus	Lavender Cotton	All Zones
virens	Santolina	All Zones
Trifolium frageriferum	O'Connor's Legume	C/I
Verberna		
rigida	Verberna	All Zones
Viguiera laciniata**	San Diego Sunflower	C/I
Vinca		
minor	Dwarf Periwinkle	M

VINES

Antigonon leptopus	San Miguel Coral Vine	C/I
Distictis buccinatoria	Blood-Red Trumpet Vine	C/I/D
Keckiella cordifolia**	Heart-Leaved Penstemon	C/I
Lonicera		
japonica 'Halliana'	Hall's Honeysuckle	All Zones
subspicata**	Chaparral Honeysuckle	C/I
Solanum		
jasminoides	Potato Vine	C/I/D

PERENNIALS

Coreopsis		
gigantea	Giant Coreopsis	C
grandiflora	Coreopsis	All Zones
maritime	Sea Dahlia	C
verticillata	Coreopsis	C/I
Heuchera maxima	Island Coral Bells	C/I
Iris douglasiana**	Douglas Iris	C/M
Iva hayesiana**	Poverty Weed	C/I
Kniphofia uvaria	Red-Hot Poker	C/M
Lavandula spp.	Lavender	All Zones
Limonium californicum		
var. mexicanum	Coastal Statice	C
perezii	Sea Lavender	C/I
Oenothera spp.	Primrose	C/I/M
Penstemon spp.**	Penstemon	C/I/D
Satureja douglasii	Yerba Buena	C/I
Sisyrinchium		
bellum	Blue-Eyed Grass	C/I
californicum	Golden-Eyed Grass	C
Solanum		
xanthii	Purple Nightshade	C/I
Zauschneria**		
californica	California Fuschia	C/I
cana	Hoary California Fuschia	C/I
'Catalina'	Catalina Fuschia	C/I

ANNUALS

Lupinus spp.**	Lupine	C/I/M
----------------	--------	-------

UNDESIRABLE PLANT LIST

The following species are highly flammable and should be avoided when planting within the first 50 feet adjacent to a structure. The plants listed below are more susceptible to burning, due to rough or peeling bark, production of large amounts of litter, vegetation that contains oils, resin, wax, or pitch, large amounts of dead material in the plant, or plantings with a high dead to live fuel ratio. Many of these species, if existing on the property and adequately maintained (pruning, thinning, irrigation, litter removal, and weeding), may remain as long as the potential for spreading a fire has been reduced or eliminated.

<u>BOTANICAL NAME</u>	<u>COMMON NAME</u>
<u>Abies species</u>	Fir Trees
<u>Acacia species</u>	Acacia (trees, shrubs, groundcovers)
<u>Adenostoma sparsifolium**</u>	Red Shanks
<u>Adenostoma fasciculatum**</u>	Chamise
<u>Agonis juniperina</u>	Juniper Myrtle
<u>Araucaria species</u>	Monkey Puzzle, Norfolk Island Pine
<u>Artemisia californica**</u>	California Sagebrush
<u>Bambusa species</u>	Bamboo
<u>Cedrus species</u>	Cedar
<u>Chamaecyparis species</u>	False Cypress
<u>Coprosma pumila</u>	Prostrate Coprosma
<u>Cryptomeria japonica</u>	Japanese Cryptomeria
<u>Cupressocyparis leylandii</u>	Leylandii Cypress
<u>Cupressus forbesii**</u>	Tecate Cypress
<u>Cupressus glabra</u>	Arizona Cypress
<u>Cupressus sempervirens</u>	Italian Cypress
<u>Dodonea viscosa</u>	Hopseed Bush
<u>Eriogonum fasciculatum**</u>	Common Buckwheat
<u>Eucalyptus species</u>	Eucalyptus
<u>Heterotheca grandiflora**</u>	Telegraph Plant
<u>Juniperus species</u>	Junipers
<u>Larix species</u>	Larch
<u>Lonicera japonica</u>	Japanese Honeysuckle
<u>Miscanthus species</u>	Eulalia Grass
<u>Muehlenbergia species**</u>	Deer Grass
<u>Palmae species</u>	Palms
<u>Picea species</u>	Spruce Trees
<u>Pickeringia Montana**</u>	Chaparral Pea
<u>Pinus species</u>	Pines
<u>Podocarpus species</u>	Fern Pine
<u>Pseudotsuga menziesii</u>	Douglas Fir
<u>Rosmarinus species</u>	Rosemary
<u>Salvia mellifera**</u>	Black Sage
<u>Taxodium species</u>	Cypress
<u>Taxus species</u>	Yew
<u>Thuja species</u>	Arborvitae
<u>Tsuga species</u>	Hemlock
<u>Urtica urens**</u>	Burning Nettle

**** San Diego County native species**

References: Gordon, H. White, T.C. 1994. Ecological Guide to Southern California Chaparral Plant Series. Cleveland National Forest.

Willis, E. 1997. San Diego County Fire Chief's Association. Wildland/Urban Interface Development Standards

City of Oceanside, California. 1995. Vegetation Management. Landscape Development Manual. Community Services Department, Engineering Division.

City of Vista, California 1997. Undesirable Plants. Section 18.56.999. Landscaping Design, Development and Maintenance Standards.

www.bewaterwise.com. 2004. Fire-resistant California Friendly Plants.

www.ucjpl.ucop.edu. 2004. University of California, Berkeley, Forest Products Laboratory, College of Natural Resources. Defensible Space Landscaping in the Urban/Wildland Interface. A Compilation of Fire Performance Ratings of Residential Landscape Plants.

County of Los Angeles Fire Department. 1998. Fuel Modification Plan Guidelines. Appendix I, Undesirable Plant List, and Appendix II, Undesirable Plant List.

INVASIVE PLANT LIST

The following species are considered invasive (i.e., those capable of reproducing and spreading into native, non-irrigated areas and displacing those communities). Non-native plant species are prohibited in all areas adjacent to open space lands. Noxious weeds that have been introduced to San Diego County over the years tend to be more widespread and therefore more difficult to contain. The plants listed below have been identified as invasive and/or as noxious weeds and should not be planted or allowed to sprout in any transitional landscapes (landscapes planted with non-native species next to undeveloped areas).

<u>BOTANICAL NAME</u>	<u>COMMON NAME</u>
<u>Allanthus altissima</u>	Tree of Heaven
<u>Anthemis cotula</u> ***	Mayweed, Stinking Chamomile
<u>Arctotheca calendola</u>	Cape Weed
<u>Arundo donax</u>	Giant Cane
<u>Atriplex semibaccata</u>	Australian Saltbush
<u>Brassica species</u> ***	Mustard
<u>Cardaria draba</u> ***	Hoary Cress, Perennial Peppergrass
<u>Carpobrotus edulis</u>	Ice Plant
<u>Centaurea solstitialis</u>	Yellow Starthistle
<u>Cirsium vulgare</u> ***	Wild Artichoke
<u>Conium maculatum</u>	Poison Hemlock
<u>Conyza Canadensis</u> ***	Horseweed
<u>Cortaderia selloana</u>	Pampas Grass
<u>Cotoneaster lacteus</u>	Cotoneaster
<u>Cupressus macrocarpa</u>	Monterey Cypress
<u>Cynara cardunculus</u> ***	Artichoke Thistle
<u>Cytisus species</u>	Scotch Broom, French Broom, etc
<u>Elaeagnus angustifolia</u>	Russian Olive
<u>Eucalyptus globulus</u>	Eucalyptus Blue Gum
<u>Gensita species</u> ***	Broom
<u>Hedera helix</u>	English Ivy
<u>Hypericum perforatum</u>	St. John's Wort
<u>Ilex aquifolium</u>	English Holly
<u>Lactuca serriola</u> ***	Prickly Lettuce
<u>Lepidium latifolium</u>	Perennial Pepperweed
<u>Myoporum parvifolium</u>	Trailing Myoporum
<u>Nerium oleander</u>	Oleander
<u>Nicotiana species</u>	Tree Tobacco
<u>Olea europaea</u>	Olive
<u>Pennisetum setaceum</u>	Fountain Grass
<u>Ricinus communis</u>	Castor Bean
<u>Robinia pseudoacacia</u>	Black Locust
<u>Salsola australis</u> ***	Russian Thistle, Tumbleweed
<u>Schinus molle</u>	California Pepper
<u>Schinus terebinthifolius</u>	Brazilian Pepper
<u>Silybum marianum</u> ***	Milk Thistle
<u>Spartium junceum</u>	Spanish Broom

Tamarix species

Ulex europea***

Vinca major

Tamarisk

Gorse

Periwinkle

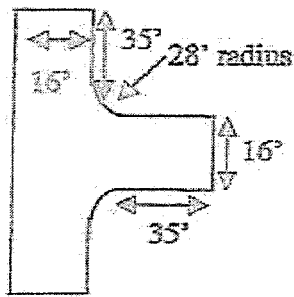
*** Introduced Weeds to San Diego County

References: Bell, Carl, Regional Advisor – Invasive Plants. 2004. University of California Cooperative Extension.

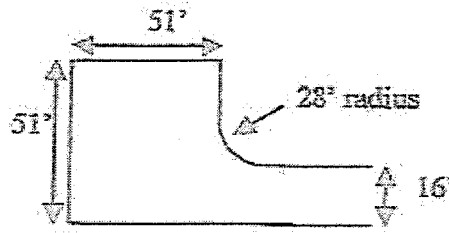
California Exotic Pest Plant Council. October, 1999. Exotic Pest Plants of Greatest Ecological Concern in California. Most Invasive Wildland Pest Plants. www.caexppc.org/info/99lista.html.

Appendix B

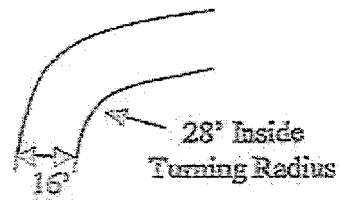
Fire Apparatus Turnaround Configurations



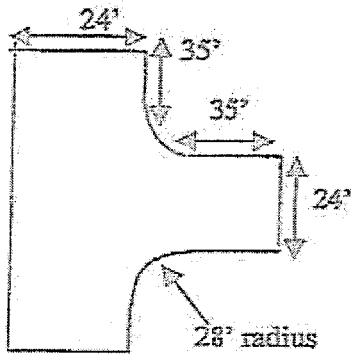
Private Driveway Hammerhead



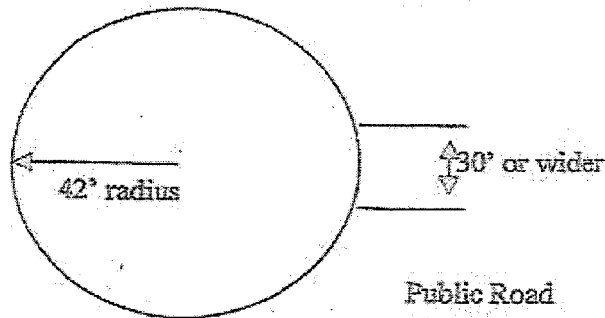
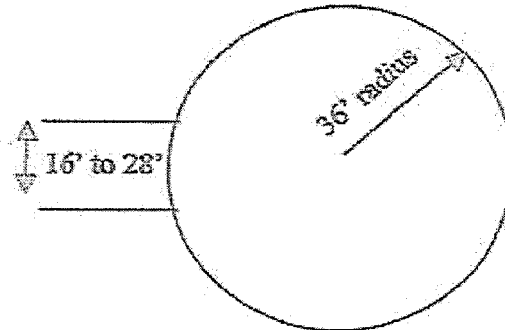
Alternate Private Driveway Hammerhead



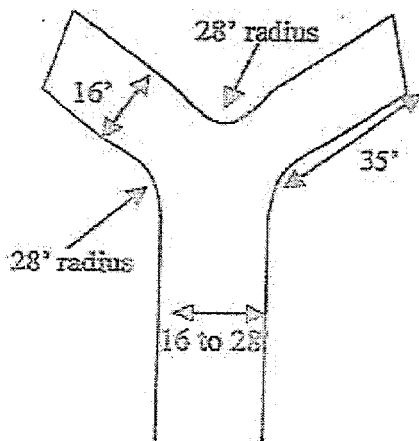
Private Road or Driveway Cul-de-sac



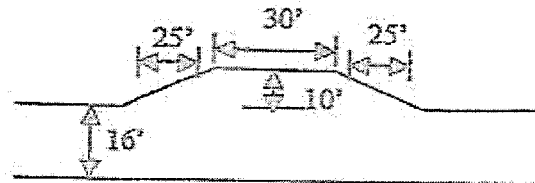
Private Road Hammerhead



Public Road Cul-de-sac



Hammerhead Incorporating Radius

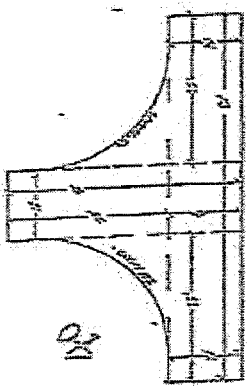
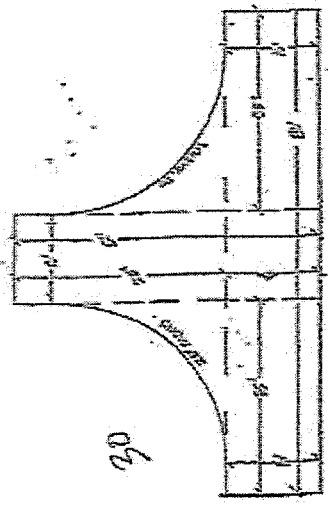
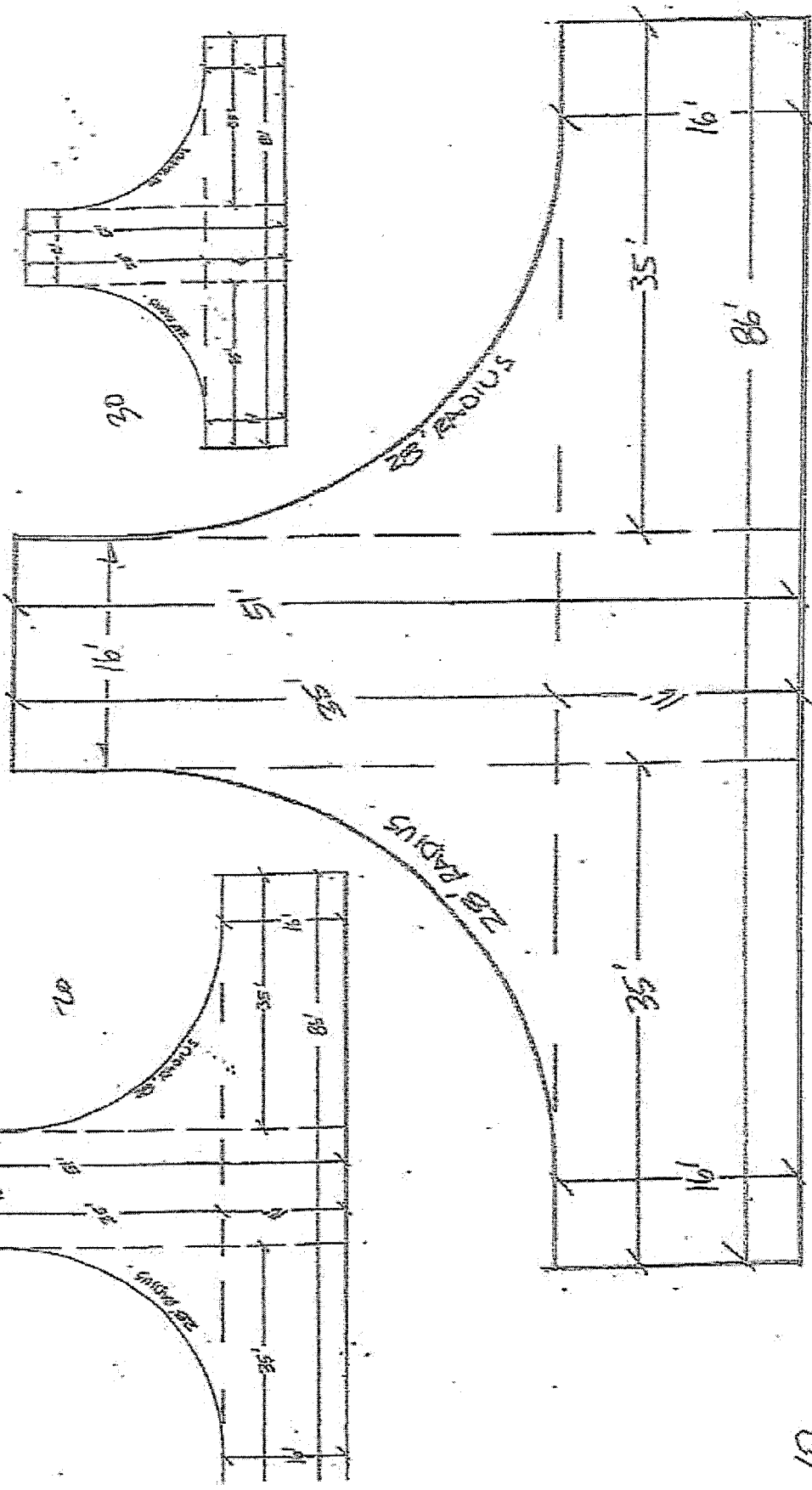


Turnout—Required for driveways In excess of 300-400'

****NOT TO SCALE****

(OVER)

Q1



Appendix C

Photos



West of the project

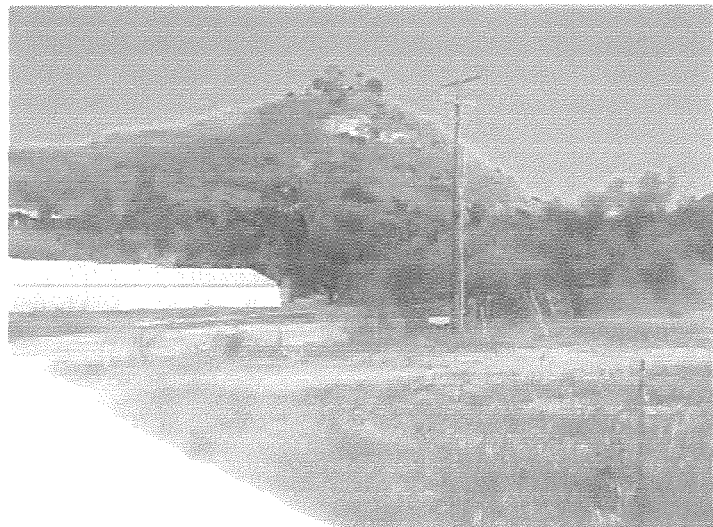


looking east across project



looking south from Gopher
Canyon Rd.

north of the project



Southwest of project

Appendix D

Behaveplus3.02 Fire Model

Modules: SURFACE, SPOT, IGNITE

Description

Tran TPM 20835

Fuel/Vegetation, Surface/Understory

Fuel Model

sh7, SCAL18,1

Fuel/Vegetation, Overstory

Canopy Height

ft

4

Fuel Moisture

1-h Moisture

%

2

10-h Moisture

%

3

100-h Moisture

%

5

Live Herbaceous Moisture

%

60

Live Woody Moisture

%

50

Weather

20-ft Wind Speed (upslope)

mi/h

60

Wind Adjustment Factor

.5

Air Temperature

oF

100

Fuel Shading from the Sun

%

0

Terrain

Slope Steepness

%

50

Ridge-to-Valley Elevation Difference

ft

140

Ridge-to-Valley Horizontal Distance

mi

.2

Spotting Source Location

VB

Run Option Notes

Calculations are only for the direction of maximum spread [SURFACE].

Fireline intensity, flame length, and spread distance are always
for the direction of the spread calculations [SURFACE].

Wind is blowing upslope [SURFACE].

Output Variables

Surface Rate of Spread (maximum) (ch/h) [SURFACE]

Heat per Unit Area (Btu/ft²) [SURFACE]

Fireline Intensity (Btu/ft/s) [SURFACE]

Flame Length (ft) [SURFACE]

Midflame Wind Speed (upslope) (mi/h) [SURFACE]
(continued on next page)

Input Worksheet (continued)

Wind Adjustment Factor [SURFACE]

Spot Dist from Wind Driven Surface Fire (mi) [SPOT]

Probability of Ignition from a Firebrand (%) [IGNITE]

Notes

--



Tran TPM 20835

Fuel	ROS	Heat per	Fireline	Flame	Midflame	Wind Adj	>
Model	(max)	Unit Area	Intensity	Length	Wind Speed	Factor	>
	ch/h	Btu/ft2	Btu/ft/s	ft	mi/h		>
sh7	603.9	2778	30752	52.2	30.0	0.5	
SCAL18	295.2	4314	23351	46.0	30.0	0.5	
I	665.6	116	1415	12.7	30.0	0.5	



From TPM 20835

< Fuel	Surf Fire	Firebrand
< Model	Spot Dist	Ignition
<	mi	%
sh7	3.1	100
SCAL18	2.8	100
1	1.1	100

Discrete Variable Codes Used
Tran TPM 20835

Fuel Model

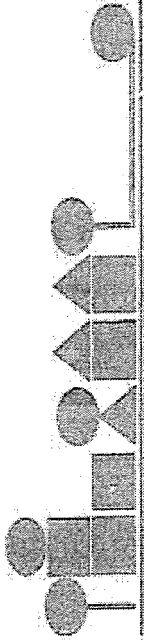
sh7	Very high load, dry climate shrub (S) (147)
SCAL18	Sage / Buckwheat
1	Short grass (S)

Spotting Source Location

VB	Valley Bottom
----	---------------

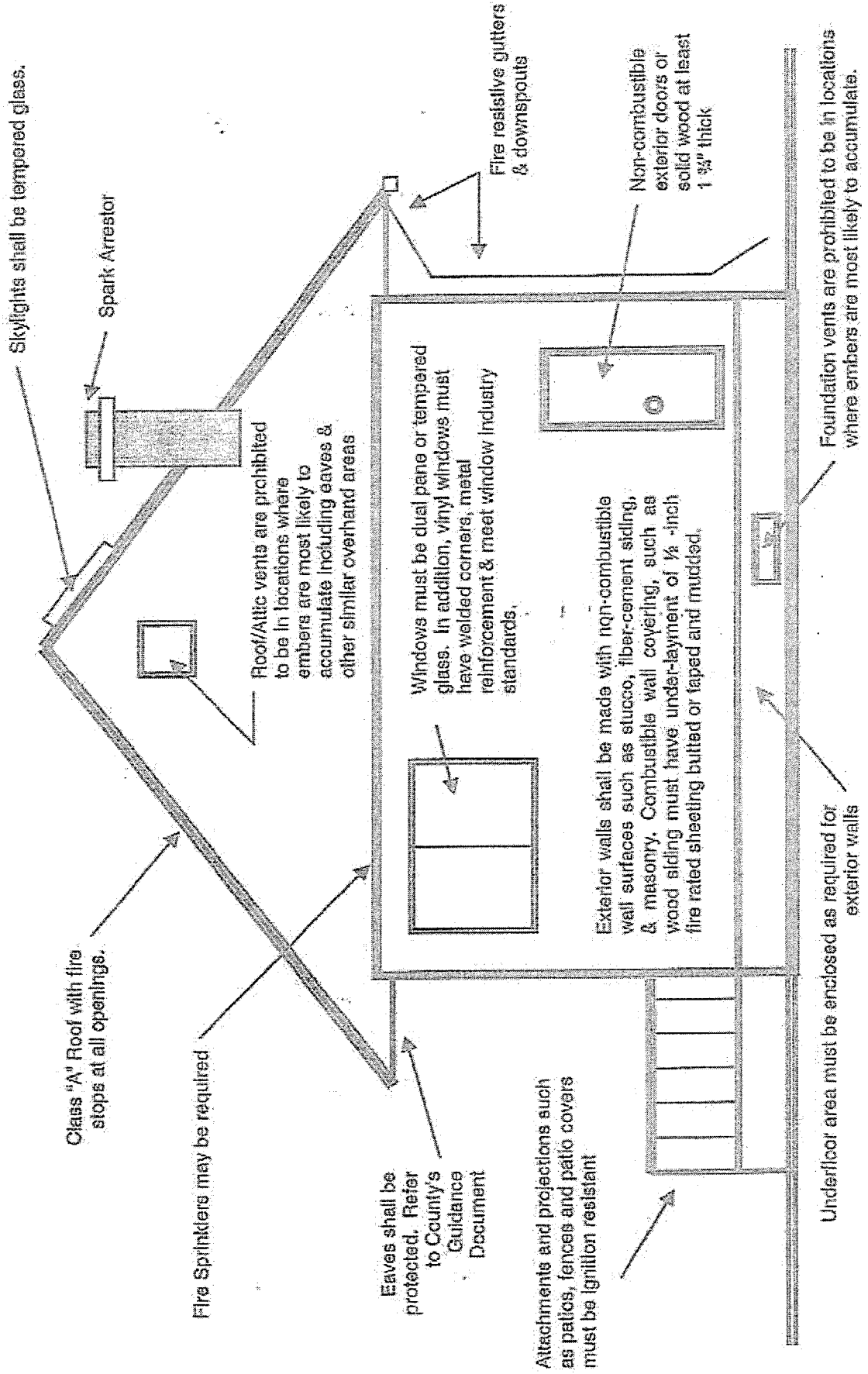
Appendix E

Fire Resistive Construction Requirements



COUNTY OF SAN DIEGO • DEPARTMENT OF PLANNING AND LAND USE
BUILDING DIVISION

Enhanced Fire Resistive Construction Requirements

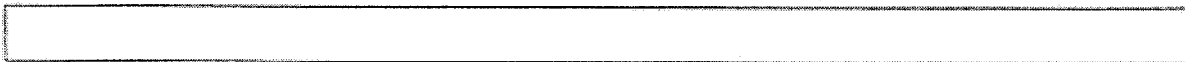


Appendix F

Code Reference

This plan is based on the following Literature and Codes

1. Behave: Fire Behavior Prediction and Fuel Modeling System – BURN Subsystem, Part 1. General Technical Report INT-194. January 1986. Patricia L. Andrews, United States Department of Agriculture – Forest Service, Intermountain Station, Ogden, Utah, 84401.
2. Behave: Fire Behavior Prediction and Fuel Modeling System – BURN Subsystem, Part 2. General Technical Report INT-360. May 1989. Patricia L. Andrews and Carolyn H. Chase, United States Department of Agriculture – Forest Service, Intermountain Station, Ogden, Utah, 84401.
3. BehavePlus Fire Modeling System, Version 2.0. General Technical Report RMRS-GRT-106WWW. June 2003. Patricia L. Andrews, Collin D. Bevins & Robert C. Seli. United States Department of Agriculture - Forest Service, Rocky Mountain Research Station, Missoula, Montana.
4. How to Predict the Spread and Intensity of Forest and Range Fires. General Technical Report INT-1943. May 1989. Richard C. Rothermel, United States Department of Agriculture – Forest Service, Intermountain Station, Ogden, Utah, 84401.
5. 2001 California Fire Code, California Code of Regulations Title 24, Part 9, which is based upon the 2000 Uniform Fire Code, Article 86 – Fire Protection Plan – Wildland Interface (UWI) Areas, Section 8601.
6. California State Senate Bill 1369 – *Amends Section 51182 of the Government Code and Section 4291 of the Public Resource Code Relating to Fire Protection.*
7. County of San Diego, County Fire Code, Ordinance No. 9669, An Ordinance Repealing And Reenacting The County Fire Code, Adopted July 14, 2004.
8. County of San Diego Ordinance No. 9670 Amending The County Building Code To Adopt The 2001 California Building Code And To Add Certain Fire Resistive Construction Standards, Adopted July 14, 2004
9. National Fire Protection Association - NFPA 1144 *Standard for Protection of Life and Property from Wildfire* (2002).
10. National Fire Protection Association- NFPA 1142 *Water Supplies for Suburban and Rural Firefighting* 2001 addition.

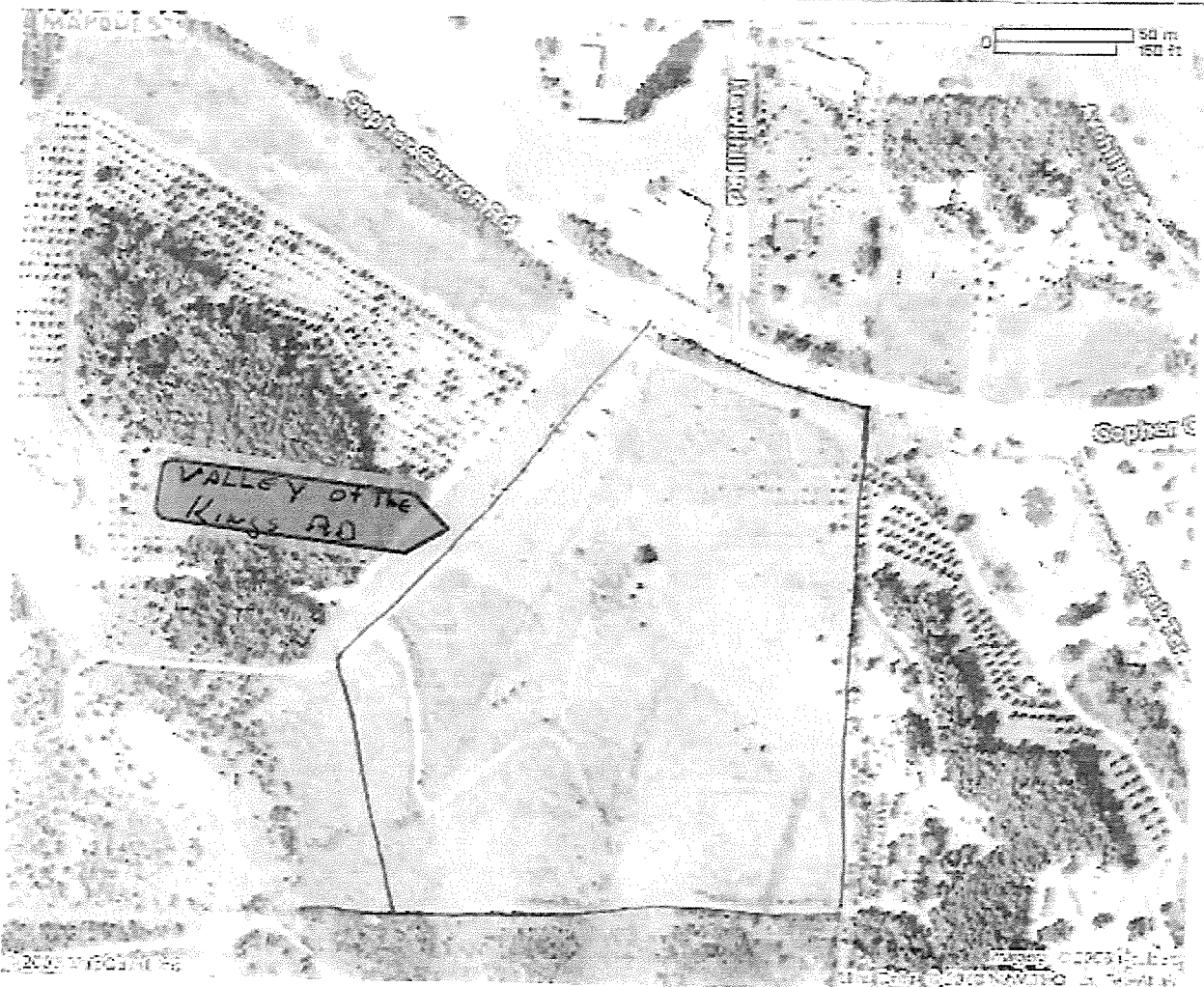


Appendix G

Aerial Photos

Tran Property on Gopher Canyon Road

TPM 20835



Appendix H

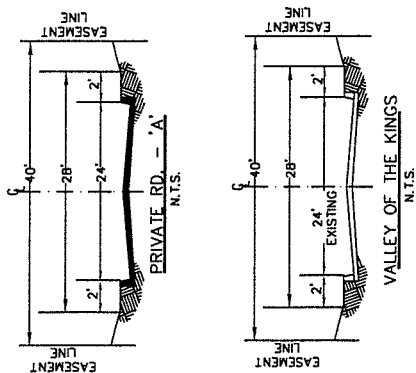
Vegetation Map (see separate file)

Appendix I

Fuel Modification Map

(see separate file)

HWY 295
 ESCONDIDO FWY
 WILD ACRES RD
 ANICHILL DR
 MARGALE LN
 DISNEY LN
 CANYON RD
 TAREKTER RD
 KING OF THE VALLEY SHOPPING CENTER
 VALLEY RD
 TWIN DAMS VALLEY RD
 SITE
 NORTH
 NO SCALE
 VICINITY MAP
 THOMAS BROS. 1068 F-6



USE REGULATIONS	A70
ANNUAL REGULATIONS	L
DENSITY	5
LOT SIZE	2 AC
BUILDING TYPE	C
MAXIMUM FLOOR AREA	100
FLOOR AREA RATIO	0
HEIGHT	G
LOT COVERAGE	W
SETBACK	100
OPEN SPACE	100
SPECIAL AREA REQUIREMENTS	100

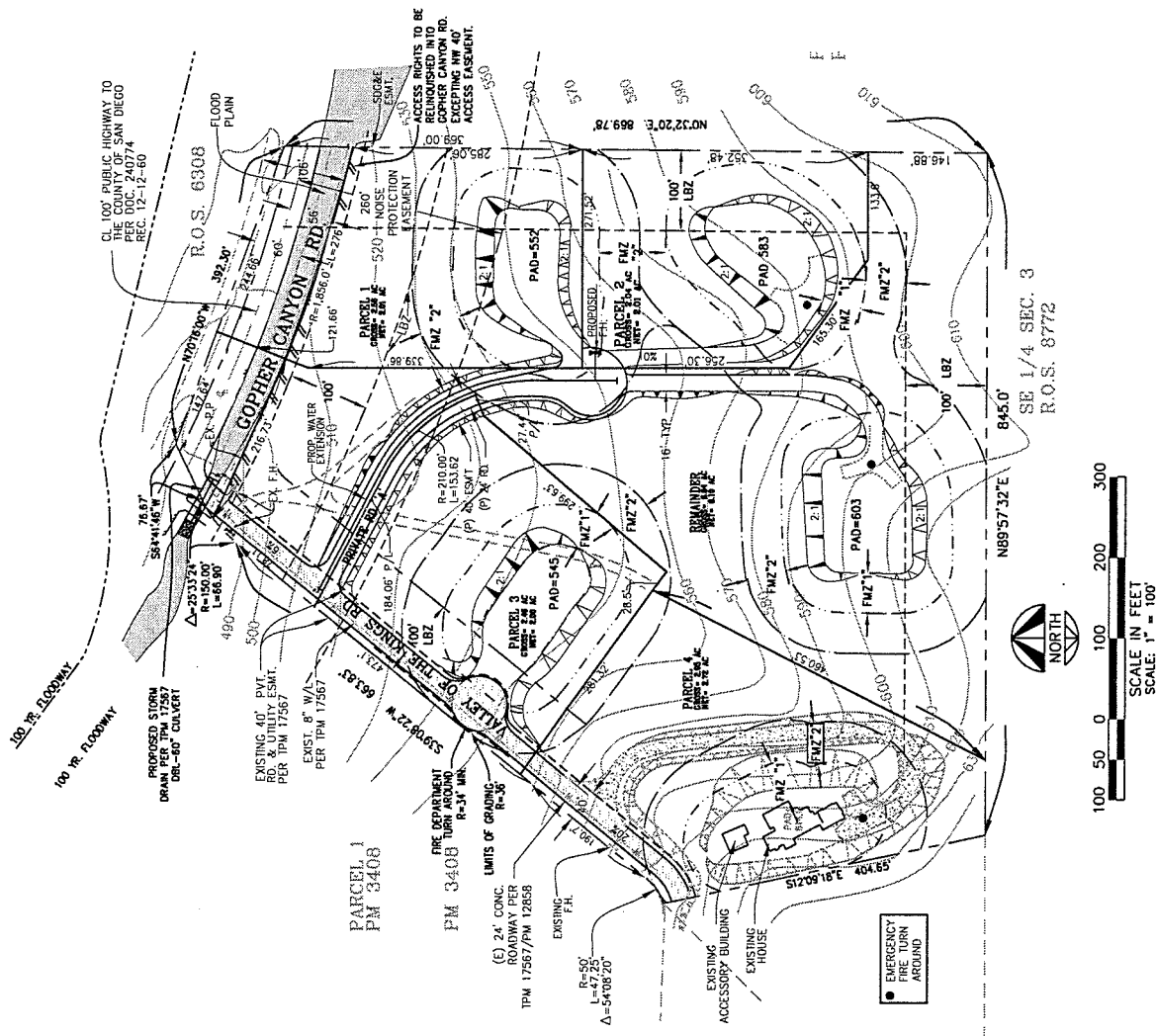
NAME(S): THUAN TRAN AND KAREN R. TRAN
ADDRESS: 1028 VILETTA DR. ESCONDIDO, CA. 92027
PHONE: 735-0294
1. ASSESSOR'S PARCEL NO. 172-014-36
2. LEGAL DESCRIPTION OF LAND SHOWING
A PORTION OF P.M. 12858 FILE #83-291316 ALSO
DESCRIBED AS PARCEL A OF CERTIFICATE OF
COMPLIANCE, PARCEL 9-13-02 #2002-078537

FMZ "1" FUEL MODIFICATION "ZONE 1"
50' FROM ALL STRUCTURES

FMZ "2" FUEL MODIFICATION "ZONE 2"
50' TO 100' (ALL DIRECTIONS)

NOTE:

PARCEL 4 AND THE REMAINDER PARCEL SHALL BE RESPONSIBLE FOR CLEARING PORTIONS OF F.M.Z. 2 AREAS WITHIN THEIR PROPERTY, EXCEPT WHEN PLANTED WITH PROTECTED SPECIES OR AGRICULTURE.



Appendix J

Project Facility Availability/Fire



COUNTY OF SAN DIEGO
DEPT. OF PLANNING & LAND USE
5201 RUFFIN ROAD, SUITE B
SAN DIEGO, CA 92123-1666
(858) 565-5081 • (888) 267-8770

PROJECT FACILITY AVAILABILITY FORM

FIRE

F

Please type or use pen 760-586-0868

Thuan and Karen Tran 760-743-5129
Owner's Name Phone
1020 Villetta Dr 29623 VALLEY OF THE KING
Owner's Mailing Address Street
Escondido, CA 92027 VISTA, CA 92084
City State Zip

ORG _____
ACCT _____
ACT _____
TASK _____
DATE _____

AMT \$ _____

DISTRICT CASHIER'S USE ONLY

SECTION 1. PROJECT DESCRIPTION

TO BE COMPLETED BY APPLICANT

- A. ☐ Major Subdivision (TM) ☐ Specific Plan or Specific Plan Amendment
☒ Minor Subdivision (TPM) ☐ Certificate of Compliance
☐ Boundary Adjustment
Rezone (Reclassification) from _____ to _____ zone.
Major Use Permit (MUP), purpose: _____
Time Extension...Case No. _____
Expired Map...Case No. _____
Other _____

Assessor's Parcel Number(s)
(Add extra if necessary)

1	7	2	0	1	4	38

- B. ☒ Residential Total number of dwelling units 4 +1 remainder
☐ Commercial Gross floor area
☐ Industrial Gross floor area
☐ Other Gross floor area

Thomas Bros. Page 1068 Grid F6
Valley of the Kings Rd

C. Total Project acreage 16.86 Total lots 4+2 Smallest proposed lot _____

Project address _____ Street _____
Bonsall
Community Planning Area/Subregion _____ Zip _____

OWNER/APPLICANT AGREES TO COMPLETE ALL CONDITIONS REQUIRED BY THE DISTRICT.

Applicant's Signature: _____ Date: 1/28/08
Address: 27315 Valley Center Rd, Valley Center, Ca 92082 Phone: 760-749-8722
(On completion of above, present to the district that provides fire protection to complete Section 2 and 3 below.)

SECTION 2: FACILITY AVAILABILITY

TO BE COMPLETED BY DISTRICT

District name: DEER SPRINGS FIRE PROTECTION DISTRICT

Indicate the location and distance of the primary fire station that will serve the proposed project: 8709 Circle R Dr
~ 3 miles

- A. ☒ Project is in the District and eligible for service.
☐ Project is not in the District but is within its Sphere of Influence boundary, owner must apply for annexation.
☐ Project is not in the District and not within its Sphere of Influence boundary.
☐ Project is not located entirely within the District and a potential boundary issue exists with the _____ District.
B. ☒ Based on the capacity and capability of the District's existing and planned facilities, fire protection facilities are currently adequate or will be adequate to serve the proposed project. The expected emergency travel time to the proposed project is 3-5 minutes.
☐ Fire protection facilities are not expected to be adequate to serve the proposed development within the next five years.
C. ☒ District conditions are attached. Number of sheets attached: 3
☐ District will submit conditions at a later date.

SECTION 3. FUELBREAK REQUIREMENTS

Note: The fuelbreak requirements prescribed by the fire district for the proposed project do not authorize any clearing prior to project approval by the Department of Planning and Land Use.

- ☒ Within the proposed project 100 feet of clearing will be required around all structures.
☒ The proposed project is located in a hazardous wildland fire area, and additional fuelbreak requirements may apply. Environmental mitigation requirements should be coordinated with the fire district to ensure that these requirements will not pose fire hazards.

THIS FORM EXPIRES ON 2-4-2009

This Project Facility Availability Form is valid until final discretionary action is taken pursuant to the application for the proposed project or until it is withdrawn, unless a shorter expiration date is otherwise noted.

Susan Magdalena Susan Magdalena F.M. 7607498001 2-4-08
Authorized signature Print name and title Phone Date

On completion of Section 2 and 3 by the District, applicant is to submit this form with application to:
Zoning Counter, Department of Planning and Land Use, 5201 Ruffin Road, Suite B, San Diego, CA 92123